

ABSTRACT OF THE DISCLOSURE

An electrochemical power generation system includes a fuel cell stack having an oxidant delivery system for delivering air from the ambient environment to the oxidant inlet of the stack, an oxygen sensor for measuring the oxygen concentration of ambient air in the vicinity of the power generation system. A controller coupled to the oxygen sensor is configured to cease operation of the power generation system when the oxygen concentration of the ambient air in the vicinity of the power generation system falls below an oxygen concentration threshold. The power generation system may also include a purge valve associated with a fuel outlet from the stack. The controller is coupled to the purge valve and configured to intermittently open the purge valve such that the hydrogen discharged from the fuel cell stack during operation of the power generation system does not cause the hydrogen concentration in the vicinity of the power generation system to exceed a high hydrogen concentration condition before the oxygen concentration in the vicinity of the power generation system falls below the oxygen concentration threshold.

130109.404/404-AP-FXA-24JUL01/198230_1.DOC